

No.



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Pennington Seeds, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY SHALL BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

FESCUE, TALL

'Adams Valley'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this third day of November, in the year two thousand and six.

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

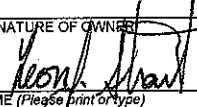


U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER Pennington Seeds, Inc. (ST: 8/11/06)		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME TFC-7001		3. VARIETY NAME Adams Valley	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) 270 Hansard Avenue Lebanon, OR 97355		5. TELEPHONE (include area code) (541) 451-5261		FOR OFFICIAL USE ONLY PVPO NUMBER 200200017 FILING DATE 10/29/2001	
		6. FAX (include area code) (541) 451-5260			
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.)		8. IF INCORPORATED, GIVE STATE OF INCORPORATION DE		9. DATE OF INCORPORATION February 12, 1998	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) Field Department Manager Leon Strait 270 Hansard Avenue Lebanon, OR 97355				FILING AND EXAMINATION FEES: \$ 2,705.00 DATE 10/29/2001 CERTIFICATION FEE: \$ 768.00 DATE 10/10/2006	
11. TELEPHONE (include area code) (541) 451-5251		12. FAX (include area code) (541) 451-5260		13. E-MAIL LeonStrait@PenningtonSeed.com	
14. CROP KIND (Common Name) Tall Fescue		16. FAMILY NAME (Botanical) Poaceae		18. DOES THE VARIETY CONTAIN ANY TRANSGENES? (OPTIONAL) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERCIALIZATION.	
15. GENUS AND SPECIES NAME OF CROP Festuca arundinacea		17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)				20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) <input checked="" type="checkbox"/> YES (If "yes", answer items 21 and 22 below) <input type="checkbox"/> NO (If "no", go to item 23)	
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety				21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness				IF YES, WHICH CLASSES? <input checked="" type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED	
c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety				22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional)				IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS. <input checked="" type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)	
e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership					
f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)					
g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$3,652), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)					
23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)				24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)	
25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.					
SIGNATURE OF OWNER 		SIGNATURE OF OWNER			
NAME (Please print or type) Leon Strait		NAME (Please print or type)			
CAPACITY OR TITLE Field Department Manager		DATE 06/23/2005		CAPACITY OR TITLE Field Department Manager	
		DATE 06/23/2005			

(See reverse for instructions and information collection burden statement)

EXHIBIT A.

ORIGIN AND BREEDING HISTORY OF TFC-7001 TALL FESCUE

'Adams Valley' (BT: 5/25/2006)

'Adams Valley' (<TFC-7001>) tall fescue (*Festuca arundinacea* Schreb.) is an advanced generation synthetic cultivar selected from the half-sib progenies of six clones designated as TFC 92-3E+, TFC 92-7E+, TFC 92-16E+, TFC 92-41E+, TFC 92-56E+, and TFC 92-57E+. Each of the maternal clones contained a *Neotyphodium* endophyte (syn. *Acremonium*).
BT: 5/25/2006

A program was initiated in the fall of 1961 to collect and evaluate germplasm useful for the development of improved turf-type tall fescues. Plant collections were made from old lawns, pastures and similar turfs throughout Connecticut, Delaware, Maryland, New Jersey, New York, Pennsylvania, Virginia, West Virginia, and Washington D.C. Promising accessions were also obtained from the United States Plant Introduction Program. Trispecies hybrids of tall fescue (*Festuca arundinacea* Schreb.), meadow fescue (*F. pratensis* Huds.) and perennial ryegrass (*Lolium perenne* L.) were obtained from the United States Regional Pasture Research Laboratory, University Park, Pennsylvania. Selections were evaluated in spaced-plant clonal nurseries which were later interseeded with Linn perennial ryegrass and maintained at a 5-cm mowing height. Tillers from selected clones showing high shoot density were then grown in isolated spaced-plant seed production nurseries. Open-pollinated seed was harvested from selected plants and used to establish 130 single-plant progeny turf plots maintained at a 2-cm mowing height. The first cycle seeded turf trials were planted at New Brunswick, NJ in September 1964. Plots of all standard varieties and most progenies were severely thinned by the stress of frequent close mowing. Surviving tillers were selected from the best plots and used to establish a second isolated spaced-plant seed production nursery in August 1968.

A substantial percentage of the tillers selected at this time came from the open-pollinated seed of clone FA2R collected from the campus lawn of Princeton University, Princeton, NJ and from clone CM8 collected from a lawn in Cape May, NJ. Open-pollinated seed was harvested from selected plants and used to establish 330 second cycle, single-plant progeny turf plots during September 1969 and August 1970. These second cycle turf trials were maintained at a 2-cm mowing height which again resulted in severe thinning of all standard varieties and most progenies. Tillers were selected from the best plots during August 1972 and established in an isolated spaced-plant seed production nursery. This nursery was rogued to remove unattractive plants prior to anthesis. Open-pollinated seed was harvested from selected plants and used to establish nearly 1,000 third cycle, single-plant progeny plots at Adelphia, NJ during the late summer of 1973. These turf trials were mowed frequently at 2-cm. All standard varieties showed severe thinning. However, a substantial percentage of the single-plant progeny plots continued to produce a full stand of attractive turf until the test was terminated in 1983. Tillers were selected from the best third cycle progeny plots during August 1974 and planted in an isolated nursery. Unattractive plants were rogued from this nursery prior to anthesis. Open-pollinated seed was harvested from selected plants and used to establish 700 fourth cycle, single-plant progeny trials at North Brunswick, NJ during August 1975. These fourth cycle turf trials were mowed at 2-cm. Again, all standard varieties showed severe thinning. Tillers were selected from the best performing fourth cycle progeny plots during the late summer of 1976 and planted in an isolated nursery at Adelphia, NJ. One-hundred twenty plants were selected from this nursery (designated T-6) during May 1977 and transferred to an isolated crossing block at New Brunswick immediately prior to anthesis. An additional 44 unrelated tall fescue clones were added to this isolation nursery. These latter

clones were selected from an extensive collection of tall fescue plants obtained from old turfs in Birmingham, AL; Atlanta and Milledgeville, GA; Preston, ID; Baltimore, MD; Bayonne, NJ; eastern North Carolina; Philadelphia, PA; and Nashville, TN during the period from 1970 through 1976. Additional attractive clones were found in Athens, GA; Lexington, KY; Cincinnati, OH; Dallas, TX; and northern Mississippi prior to 1983.

The tall fescue plants selected from old turfs were of unknown origin. All were large patches of turf surviving in stressful environments indicating that they had persisted and developed over a period of many years.

Tall fescue was introduced into the United States from Europe. Its historical development and use was well documented by Buchner, Powell, and Frakes in 1979 (Buchner et al., 1979). Introductions by private agriculturalists and government personnel were made and evaluated during the 1800's. Many of their introductions became naturalized in various locations. However, tall fescue was not given much prominence until Oregon and Kentucky released Alta and Kentucky 31 in the early 1940's.

As a result of natural selection, a few outstanding tall fescue plants persisted and spread under the stresses of frequent close mowing, heavy traffic, excessive shade, poor soils, and the diseases, harmful nematodes, and insect pests common to our very warm, humid summers and frequently cold winters. The best adapted plants spread to produce attractive turfs often exceeding one meter in diameter. A few hundred attractive, turf-type plants were collected and established in spaced-plant nurseries and/or frequently mowed clonal evaluation trials at Rutgers University. All but a few dozen of the most promising plants were quickly discarded. The best selections were very different from any tall fescue variety in existence at the time of collection. They produced lower-growing turfs with finer leaves, greater density, darker color, and greater

tolerance of close mowing. They most likely originated from the early introductions from Europe. However, some could have been rare segregates from Kentucky 31 or Alta.

The best selected plants were allowed to interpollinate. Their progenies were then subjected to varying cycles of population improvement using both phenotypic and genotypic recurrent selection. Fewer than five percent of the plants in spaced-plant nurseries were normally selected in each cycle of phenotypic selections. Fewer than one percent of the original seedlings were selected from only the best performing seeded turf plots. Phenotypic selection involved (1) selection of darker green, more compact, disease-free, highly tillering seedlings during winter greenhouse tests; (2) selection of attractive, leafy, lower-growing, darker-green plants showing higher seed yielding potential in spaced-plant nurseries, and (3) selecting attractive plants surviving in closely mowed turf trials subjected to stresses of heat, drought, disease, insects, and winter cold. Genotypic selection included extensive evaluation of single-progenies in closely mowed turf trials, and spaced-plant nurseries. Additional germplasm was added to the program as opportunities developed. Separate breeding composites were developed and latter intercrossed to help maintain genetic diversity and reduce inbreeding.

The six maternal clones used in the development of ^{'Adams Valley'} ~~ATC-70017~~ _(or 5/25/2005) were selected from large spaced-plant nurseries at the Rutgers Plant Science Research Farm at Adelphia, NJ immediately prior to anthesis in May 1993. They were subsequently moved to an isolated crossing block for interpollination. Seed harvested from these clones in July 1994 was used to establish half-sib, single-plant progeny turf trials at Adelphia, in the late summer of 1994. Four-hundred eighty plants were selected from these turf plots during the summer of 1996 and transplanted into an isolated spaced plant nursery at Adelphia. Three-hundred

eighty-five plants were removed from this nursery prior to anthesis in 1997. Seed was subsequently harvested from 89 of the remaining plants which showed the best floret fertility on July 5, 1997. Over 50 percent of the germplasm used in the development of ^{'Adams Valley'} TFC-7001 ^(ref: 5/25/06) traces its origin to plants selected from populations closely related to Genesis tall fescue. Approximately 41% trace to plants screened for crown rust resistance in a mowed spaced-plant nursery in 1988. Twenty-one percent trace to a plant related to 'Apache' tall fescue. Another 16% trace to a plant collected on the grounds of the GA State Hospital in 1977. Approximately 15% trace to plants collected from Downers Grove Illinois, in the early 1980's. The remaining seven percent trace to a plant collected on a farm in eastern North Carolina in 1975.

Bulked breeder seed of ^{'Adams Valley'} TFC-7001 ^(ref: 5/25/2006) tall fescue was sent to Green Seed Company, subsequently purchased by AgriBioTech, Inc., in August, 1997, subsequently purchased by Budd Seed, July, 2000. Breeder seed of TFC-7001 will be produced and maintained by Advanta Seeds Pacific, Inc.

References

1. Buckner, Robert C., Jerrell B. Powell, and Rod V. Frakes. 1979. Historical Development, in Buckner, Robert C., and Lowell P. Bush (editors) Tall Fescue. Agronomy Monograph 20. American Society of Agronomy, Crop Sciences Society of America, Soil Science Society of America, Inc., Publishers. Madison, Wisconsin pages 1-8.
2. Funk, C.R., R.E. Engel, W.K. Dickson, and R.H. Hurley. 1981. Registration of Rebel tall fescue. Crop Sci. 21:632.

2. Breeder Seed Maintenance:

A breeder seed multiplication was planted in isolation in 2000 near Albany, Oregon. Seed was harvested in bulk in 2001 and is maintained in cold storage. Seed propagation is limited to three generations, one each of foundation, registered, and certified.

3. Stability and Uniformity:

(BT: 5/25/2006) 'Adams Valley' and (bt: 7/29/2005) TFC 7001 has been a stable uniform cultivar over two generations. No off-type or variant plants have been observed during the multiplication or reproduction. Turf plots and foundation class fields of TFC 7001 have been uniform.

Exhibit B

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3/10/05 Novelty Statement for TFC-7001 Tall Fescue
'Adams Valley'

The following summary outlines the distinctive characteristics of TFC-7001. The novelty of TFC-7001 is based on the unique combination of these characteristics. TFC-7001 is most similar to Wyatt, but may be differentiated by using the following criteria:

- 1) The heading date of ^{'Adams Valley'} TFC-7001 is at least 5 days later than for Wyatt (tables 1A, 1B).
(BT: 5/25/06)
- 2) The anthesis date of TFC-7001 is at least 3 days later than for Wyatt (tables 1A, 1B).
- 3) The mature plant height of TFC-7001 is at least 9 cm less than for Wyatt (tables 1A, 1B).
- 4) TFC-7001 has a darker genetic color than Wyatt (tables 1A, 1B).
- 5) The panicle length (lower branch of inflorescence to apex) is a shorter distance for TFC-7001 than for Wyatt (tables 1A, 1B; illustration 1).
- 6) The distance between the upper most nodes is at least 3 cm shorter than for Wyatt (tables 1A, 1B).
- 7) The presence of yellow anthers is less frequent for TFC-7001 (tables 3A, 3B).
- 8) ^{Adams Valley} TFC-7001 exhibits a low frequency of color in the nodes on the flowering culm
(BT: 5/25/06) (tables 3A, 3B).

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Jamie L. Whitten Building, Washington, D.C. 20250. When replying, refer to OMB No. 0581-0055 and form number in your letter. Under the PRA of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY PROGRAM
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

EXHIBIT C
(TALL & MEADOW FESCUES)

OBJECTIVE DESCRIPTION OF VARIETY
TALL & MEADOW FESCUES
(*Festuca* spp.)

NAME OF APPLICANT(S) 7/28 3/10/05 Budd Seeds Pennington Seed Inc.	TEMPORARY DESIGNATION TFC-7001	VARIETY NAME 9/28 3/10/05 Adams Valley
ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code) 7/28 3/10/05 199 Budd Blvd Winston Salem, NC 27103	270 Hansard Avenue Lebanon, OR 97355	FOR OFFICIAL USE ONLY VPVO NUMBER 200200017

Place the appropriate number that describes the varietal characteristics of this variety in the boxes below. Use leading zeroes when necessary (e.g. 089). Characteristics described, including numerical measurements, should represent those that are typical for the variety. Measured data should be for SPACED PLANTS. Royal Horticultural Society or any recognized color fan may be used to determine plant colors. Characteristics marked with an asterisk * are characteristics which should be recorded.

* 1. SPECIES: (With comparison varieties, use varieties within the species of the application variety)

__1__ 1 = *F. arundinacea* (Tall)

Turf Types

1 = Kentucky 31 2 = Rebel 3 = Olympic 4 = Bonanza 5 = Arid 6 = Rebel II
7 = Shortstop 8 = Silverado 9 = Rebel Jr. 10 = Mini Mustang 11 = Crewcut 12 = Bonsai

Forage Types

20 = Kentucky 31 21 = Martin 22 = Forager 23 = Mozark
24 = Kenhy 25 = AU Triumph 26 = Fawn 27 = Cajun

____ 2 = *F. pratensis* (Meadow)

30 = Admira 31 = Beaumont 32 = Comtessa 33 = Ensign 34 = Trader

* 2. CYTOLOGY:

__2N=42__ Chromosome Number

3. ADAPTATION: (0 = Not Tested; 1 = Not Adapted; 2 = Adapted)

__0__ Transition Zone __2__ West __2__ Northeast __0__ Other (Specify):

* 4. MATURITY: (Date First Headed, 10% of Panicle Emergence)

__7__ Maturity Class 1 = Very early () 2 = AU Triumph 3 = Early (Fawn) 4 = K31, Kenhy 5 = Medium (Rebel)

4. MATURITY: (continued)

200200017

6 = Bonanza

7 = Late (Silverado)

8 = ()

9 = Very late

Date Headed 35.72 (Days after April 1)

Location Albany, Oregon

 Days earlier than
 Maturity same as
10.25 Days later than 1

} Comparison Variety

* 5. MATURE PLANT HEIGHT CM: (Average of 100 culms from crown to top of panicle, if panicle is nodding, straighten)

* INTERNODE LENGTH CM: (First internode subtending the flag leaf)

93.5 cm Height

19.0 cm InternodeLength

44.5 cm Shorter than 1
 Height same as
 cm Taller than

} Comparison Variety

9.8 cm Shorter than 1
 Length same as
 cm Longer than

} Comparison Variety

* HEIGHT AT EAR EMERGENCE CM: (Flag leaf height from crown to flag leaf node)

30.8 cm Height

15.3 cm Shorter than 1
 Height same as
 cm Taller than

} Comparison Variety

* 6. GROWTH HABIT: (Mature Plants)

8 1 = Prostrate ()

3 = Semiprostrate ()

5 = Horizontal ()

7 = Semierect (Rebel)

9 = Erect (Mini Mustang)

See Table 3

* 7. RHIZOMES (Psuedo):

 mm Length X 1 = Absent (1) 2 = Rare (Rebel) 3 = Common ()

* 8. LEAF BLADE: (Tiller leaves/ turf color)

* 7 Color: 1 = Light green () 3 = Medium light green (1) 5 = Green ()

7 = Medium dark green () 9 = Very dark green ()

3 Specify rating of comparison variety

* 1 Anthocyanin: 1 = Absent (1) 9 = Present ()

* 1 Basal Hairs: 1 = Absent (1) 9 = Present ()

* 5 Margins: 1 = Smooth () 5 = Semi-rough () 9 = Rough (1)

8. LEAF BLADE: (continued)

200200017

* 5 Width Class: 1 = Very coarse () 3 = Coarse (1) 5 = Medium ()

7 = Fine () 9 = Very Fine ()

* TILLER LEAF LENGTH CM: (First leaf subtending the flag leaf)

* TILLER LEAF WIDTH MM:

18.98 cm Tiller Leaf Length

4.2 mm Tiller Leaf Width

7.6 cm Shorter than 1

1.7 mm Narrower than 1

Length same as

Width same as

 cm Taller than

 mm Longer than

Comparison Variety

Comparison Variety

FLAG LEAF LENGTH CM:

FLAG LEAF WIDTH MM:

11.0 cm Flag Leaf Length

3.7 mm Flag Leaf Width

5.0 cm Shorter than 1

0.7 mm Narrower than 1

Length same as

Width same as

 cm Longer than

 mm Wider than

Comparison Variety

Comparison Variety

* 9. LEAF SHEATH: (Basal Portion)

* 9 Anthocyanin (seedling): 1 = Absent (K31)

9 = Present () 55% See Table 3

* 9 Auricle Hairiness: 1 = Absent ()

9 = Present (1)

* 10. PANICLE: (At seed maturity except where noted.)

* 7 Shape: 1 = Narrow-tapering () 5 = Ovate () 7 = Oblong (1) 9 = Other (specify)

* 7 Type: 1 = Compact (appressed) 5 = Intermediate () 7 = Open (1) 9 = Other (specify)

* 9 Orientation: 1 = Nodding (1) 9 = Erect (1)

(or: 6/9/2005 per applicant's request)

* 1 Branch Pubescence: 1 = Glabrous (1) 9 = Pubescent ()

* 1 Anther Color (At anthesis): 1 = Yellowish Green 2 = Green 3 = Bluish Green

4 = Purplish 5 = Reddish 6 = Other (Specify)

* 1 Glume Color (At anthesis): 1 = Yellowish Green 2 = Green 3 = Bluish Green

4 = Purplish 5 = Reddish 6 = Other (Specify)

* 62.5 cm Panicle Length (from base to tip, if nodding, straighten; after anthesis)

22.3 cm Shorter than 1

Length same as

 cm Longer than

Comparison Variety

12.

13. ENVIRONMENTAL STRESS: (continued)

5 Winter Stress 1 = Susceptible () 5 = Tolerant (1) 9 = Resistant ()

14. GIVE VARIETY OR VARIETIES THAT MOST CLOSELY RESEMBLE THE APPLICATION VARIETY. For the following characteristics, indicate the degree of resemblance with the following scale:

1 = Application variety is less than comparison variety 2 = Same as 3 = More than, better, greater, darker, etc.

Character	Varieties	Rating	Character	Varieties	Rating
Leaf Width	KY-31	1	Leaf Color	KY-31	3
Panicle Color	KY-31	-	Panicle Shape	KY-31	1
Seed Size	KY-31	1	Cold Injury	KY-31	-
Winter Color	KY-31	-	Heat	KY-31	-
Disease	KY-31	-			

* 15. EXPERIMENTAL: Give a brief summary of the experimental design utilized to collect the data used on this form. Cultural conditions, number of plants measured and plant spacing must be specified.

A morphological nursery designated 97PVPFA1 was established in September of 1997, in Albany, Oregon. Experimental design consisted of 8 entries; 4 replications per entry; 20 plants per replication; for a total of 80 plants per entry. KY-31 and Wyatt were used as standards. Plants were established on 2.5 foot centers with a skip row between replications and between entries.

The nursery received 30 pounds of nitrogen per acre rate following establishment and 50 pounds of nitrogen per acre per year in 1998 and 1999. The fertilizer source was 15-15-15 and was applied as a split application with ½ applied in the spring and ½ in the fall. The nursery was sprayed twice each spring, 3 weeks between applications, with Tilt (2 oz/acre rate), to prevent stem rust. One pound of Karmex per acre rate was applied during late summer to prevent emergence of volunteer seedlings.

Data was analyzed using analysis of variance for a randomized complete block design. Means were calculated for each replication and then analyzed.

Exhibit D

Additional Description

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3/10/05 TFC-7001 Tall Fescue
'Adams Valley'

'Adams Valley'

TFC-7001 is an improved turf-type tall fescue. It has a dwarf growth habit (tables 1A, 1B) and has a darker genetic color (tables 1A, 1B) than previously released tall fescue cultivars, such as Wyatt and KY-31. TFC-7001 has a medium-late maturity and a heading date later than Wyatt and KY-31 (tables 1A, 1B). TFC-7001 has a significantly shorter distance from the apex of the panicle to the lower most whorl than Wyatt and KY-31 (tables 1A, 1B). Wyatt and KY-31 exhibit a dominance of yellow anthers compared to TFC-7001 (tables 3A, 3B). Wyatt and KY-31 also show a greater degree of pigment in the nodes on the flowering culm than TFC-7001 (tables 3A, 3B).

Panicle Type Inflorescence

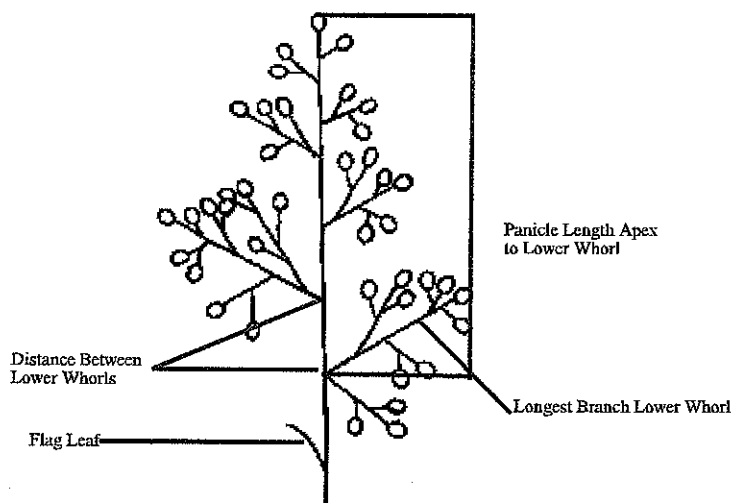


Illustration 1.

Data from the 2003 Rutgers Turfgrass Proceedings

Table 1. Performance of tall fescue cultivars and selections in a turf trial established in September 1999 at Adelphia, NJ.
pages 154-156

	Cultivar	Turf Quality	Brown Patch
(high entry TQ)	Signia	6.00	3.00
	Rebel Exeda	5.90	4.30
	Forte'	5.80	4.30
	Adams Valley	5.40	4.00
	Focus	5.30	4.30
	Plantation	5.10	4.00
	Prospect	4.60	3.70
	Millennium	4.40	3.30
	Wolfpack	4.10	5.00
(low entry TQ)	Kentucky 31	1.20	3.00
	LSD (5%)	0.50	0.90

(100 entries)

Blue = significant difference over 1 year

1 - 9 scale; 9=best

Table 1A

1998 Field Morphological Measurements

Cultivar	Genetic Color 9=dark	Heading Date Days after April, 1	Anthesis Date Days after April, 1	Mature Plant Height (cm)	Plant Width (cm)	Panicle Length (cm)	Flag Leaf Length (cm)	Flag Leaf Height (cm)	Flag Leaf Internode Length (cm)	Flag Leaf Sheath Length (cm)	Flag Leaf Width (mm)	Leaf Blade Height (cm)	Leaf Blade Length (cm)	Leaf Blade Width (mm)	Leaf Sheath Length (cm)
BR-1	6.50	32.75	64.00	102.48	26.08	58.23	10.38	30.80	21.13	20.55	4.50	25.83	20.55	4.75	5.20
DLSD	6.25	29.50	62.50	111.23	27.08	65.75	12.08	34.18	20.40	21.83	5.50	30.68	24.00	5.50	6.35
TSD	6.50	34.75	64.50	95.23	26.18	58.38	9.85	29.93	18.08	20.50	4.75	27.33	21.20	4.75	6.00
Adams Valley LFC-70013	7.00	35.75	65.25	93.58	25.78	52.53	9.80	30.85	19.00	21.23	4.25	27.55	21.35	5.75	5.95
Wyatt	6.00	30.50	62.50	108.75	26.20	62.83	10.05	33.00	21.88	22.68	4.50	29.85	23.15	4.50	5.78
KY-31	3.50	25.50	62.00	138.10	32.10	76.68	15.08	46.23	28.88	31.45	6.25	45.28	37.03	6.75	7.45
LSD 5%	0.55	1.28	1.21	5.35	2.22	5.09	1.02	1.58	1.97	0.92	0.60	4.41	3.80	0.42	0.76
C.V.	7.50	3.31	1.57	4.12	6.86	6.84	9.09	3.89	7.55	3.34	10.44	11.83	12.87	6.80	10.45

Measurement taken in Albany, Oregon.

4 reps; 20 plants/rep = 80 data points.

Cultivar under evaluation

significant difference over two years one location.

significant difference over one year one location.

Table 1B

1999 Field Morphological Measurements

Cultivar	Genetic Color 9=dark	Heading Date Days after April, 1	Anthesis Date Days after April, 1	Mature Plant Height (cm)	Plant Width (cm)	Panicle Length (cm)	Flag Leaf Length (cm)	Flag Leaf Height (cm)	Flag Leaf Internode Length (cm)	Flag Leaf Sheath Length (cm)	Flag Leaf Width (mm)	Leaf Blade Height (cm)	Leaf Blade Length (cm)	Leaf Blade Width (mm)	Leaf Sheath Length (cm)
BR-1	6.00	36.50	68.25	100.23	32.48	62.20	11.55	32.55	22.18	20.78	3.50	31.98	18.98	4.25	12.73
DLSD	5.75	33.00	67.00	110.33	33.33	71.23	13.35	35.85	23.53	22.53	3.75	33.48	20.38	4.75	12.83
TSD	6.00	40.75	70.50	95.85	33.93	60.30	10.50	31.68	20.08	21.28	4.00	30.85	18.30	5.00	12.20
Albion Valley LFC-70015	6.00	39.50	70.00	99.10	31.70	62.50	11.03	33.88	21.53	23.15	3.75	31.55	18.23	4.25	13.18
Wyatt	5.25	31.50	66.25	108.30	31.85	68.15	11.90	33.88	24.93	22.03	3.50	31.35	18.20	4.50	13.15
KY-31	3.00	24.75	64.25	145.50	34.38	84.88	16.00	48.00	31.38	32.13	4.50	45.73	25.85	6.00	19.78
LSD 5%	0.42	2.19	1.36	7.32	1.72	5.36	1.55	2.77	2.03	1.65	0.63	2.22	1.83	0.55	0.76
C. V.	6.40	5.28	1.65	5.58	4.37	6.58	10.68	6.50	7.00	5.87	14.15	5.50	7.72	9.94	4.64

Measurement taken in Albany, Oregon.

4 reps; 20 plants/rep = 80 data points.

■ Cultivar under evaluation

■ significant difference over two years one location.

■ significant difference over one year one location.

Table 2A

1998 Laboratory Morphological Measurements

Cultivar	Lemna Length (mm)	Lemna Awn Length (mm)	Lemna Width (mm)	Palea Length (mm)	Palea Width (mm)	Glume Length (mm)	Florets Per Spikelet	Spikelet Length (mm)	Spikelets Per Panicle	Whorl Distance (mm)	Whorl Length (mm)	Spikelet Number Longest Whorl
BR-1	7.28	1.88	1.33	6.18	1.18	4.33	6.75	12.13	66.50	50.48	86.10	13.25
DLSD	7.20	1.68	1.35	6.25	1.20	4.25	6.25	11.60	89.50	57.53	101.38	15.25
TSD	7.08	1.58	1.35	6.28	1.20	4.38	6.50	12.15	76.25	55.70	97.90	14.75
Adams Valley JF7C-7001	7.28	1.63	1.33	6.70	1.18	4.50	6.75	13.10	62.00	49.63	85.80	12.25
Wyatt	6.95	1.68	1.30	6.00	1.13	4.30	5.75	10.60	81.75	54.93	95.65	14.75
KY-31	8.18	1.95	1.40	7.13	1.23	5.33	6.25	12.80	101.75	73.48	125.48	16.50
LSD 5%	0.22	0.17	0.07	0.16	0.08	0.14	0.60	0.46	10.50	3.30	8.14	1.99
C.V.	2.51	8.50	4.45	2.12	5.81	2.73	7.78	3.32	11.03	4.91	6.98	11.52

Measurement taken in Albany, Oregon.
4 reps; 20 plants/rep = 80 data points.

■ Cultivar under evaluation

■ significant difference over two years one location.

■ significant difference over one year one location.

Table 2B
1999 Laboratory Morphological Measurements

Cultivar	Lemma Length (mm)	Lemma Awn Length (mm)	Lemma Width (mm)	Palea Length (mm)	Palea Width (mm)	Glume Length (mm)	Florets Per Spikelet	Spikelet Length (mm)	Spikelets Per Panicle	Whorl Distance (mm)	Whorl Length (mm)	Spikelet Number Longest Whorl
BR-1	5.93	1.58	1.15	5.98	1.00	4.30	4.75	10.53	69.50	46.00	77.65	12.50
DLSD	6.05	1.18	1.15	5.98	1.05	4.05	5.00	10.33	91.25	50.38	84.45	15.00
TSD	6.10	1.20	1.15	6.13	1.03	4.55	5.00	10.63	78.00	52.65	88.18	13.75
Adams Valley < TFC-70017	6.43	1.25	1.15	6.40	1.03	4.68	5.00	10.78	72.25	47.53	75.48	12.50
Wyatt	5.95	1.08	1.15	6.03	1.05	4.40	4.50	9.70	83.50	48.33	78.75	14.00
KY-31	6.83	1.30	1.20	6.90	1.10	5.15	4.75	11.48	108.00	62.60	99.93	14.75
LSD 5%	0.30	0.16	0.06	0.21	0.04	0.18	0.48	0.38	13.30	4.24	8.92	2.74
C.V.	4.03	10.97	4.88	2.83	3.80	3.33	8.22	3.04	13.35	7.05	9.03	16.61

Measurement taken in Albany, Oregon.
4 reps; 20 plants/rep = 80 data points.

■ Cultivar under evaluation

■ significant difference over two years one location.

■ significant difference over one year one location.

Table 3A 1998 Additional Measurements

Cultivar	Anther Color % Yellow	Growth Habit % Erect	Panicle Orientation % Erect	Panicle Shape % Oblong	Panicle Type % Open	Leaf Blade Anthocyanin % Purple	Lemma Awn % Awned	Glume Color % Red	Seed Weight 1000 seed/mg
BR-1	77	84	80	79	79	48	100	19	2346
DLSD	99	80	82	80	80	53	100	19	2326
TSD	79	82	97	95	95	55	100	19	2257
Adams Valley <TFC-7001>	80	71	94	93	93	55	100	15	2317
Wyatt	95	82	87	72	73	56	100	13	1984
KY-31	98	75	60	100	100	41	100	16	3465

Measurement taken in Albany, Oregon.

4 reps; 20 plants/rep = 80 data points.

■ Cultivar under evaluation

(br: 5/25/06)

Table 3B 1999 Additional Measurements

Cultivar	Anther Color % Yellow	Growth Habit % Erect	Panicle Orientation % Erect	Panicle Shape % Oblong	Panicle Type % Open	Leaf Blade Anthocyanin % Purple	Lemma Awn % Awned	Glume Color % Red	Seed Weight 1000 seed/mg
BR-1	72	82	80	77	77	52	96	0	
DLSD	94	82	82	86	86	57	89	1	
TSD	77	99	97	88	88	55	87	1	
Adams Valley <TFC-7001>	69	95	94	91	91	60	91	0	
Wyatt	91	84	87	75	75	62	84	3	
KY-31	95	52	60	96	96	39	86	1	

Measurement taken in Albany, Oregon.

4 reps; 20 plants/rep = 80 data points.

■ Cultivar under evaluation

(br: 5/25/06)

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE**EXHIBIT E**
STATEMENT OF THE BASIS OF OWNERSHIP

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) Pennington Seeds, Inc.	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER TFP-7001 (ST-8/11/06)	3. VARIETY NAME Adams Valley
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) 270 Hansard Avenue Lebanon, OR 97355	5. TELEPHONE (Include area code) (541) 451-5261	6. FAX (Include area code) (541) 451-5260
7. PVPO NUMBER 200200017		

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain. ☒ YES ☐ NO9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country. ☒ YES ☐ NO10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☒ YES ☐ NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☒ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (Trace ownership from original breeder to current owner. Use the reverse for extra space if needed):

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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